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The Yellow Mud Turtle, *Kinosternon flavescens* *spooneri* Smith, in Iowa

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A series of 15 mud turtles recently collected at two stations in Muscatine County, Iowa, has been identified as *Kinosternon flavescens*. An examination of the literature fails to reveal previous records of the occurrence of any species of the genus *Kinosternon* in Iowa. The nearest known population occurs in Henderson County, Illinois, which is the type locality of *K. f. spooneri* Smith ; this population, however, is only 30 air miles from the Muscatine County localities. The nearest known population of *K. f. flavescens* (Agassiz) is apparently Nuckolls County, Nebraska (Burt and Hoyle, 1934) . The hiatus between the known ranges of *flavescens* and *spooneri* is still approximately 350 miles.

Eleven specimens were collected by the senior author from the Conesville marshes, two miles east of Conesville, in May and July of 1954. These marshes generally have some open water, although they occasionally dry up in summer. The turtles were collected by hand in the shallow water. Six specimens, a male, four females, and a juvenile of undetermined sex, were retained and are now in the collection of the senior author. Two macerated specimens of the same species were picked up on the shore of a small lake on Big Sand Mound, five and one-half miles southeast of Muscatine, by the junior author in May, 1954. Two months later two additional males were seined from the same lake. These four specimens are deposited in the Davenport Public Museum.

The color characters of this series are in essential agreement with those given for the recently described *K. f. spooneri* (Smith, 1951). The ventral surfaces of the head and neck in the adults are light gray rather than yellow, the yellow being restricted to the tomium, beak, and four pairs of barbels. The top of the head is olive ; the sides gray suffused

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with light olive. A juvenile, 46 mm. in carapace length and 38 mm. in carapace width, differs primarily from the adults in having a more pronounced yellow coloration on the barbels and in the lack of elevation of the 8th and 9th marginals.

The gular length/anterior lobe of the plastron length ratio, the only morphological character presented by Smith (*ibid.*) to separate *spooneri* and *flavescens*, ranges from 43.4 to 49.4 per cent (average 46.8 per cent) in our series. In this ratio the Iowa specimens are intermediate between the 51 per cent given for Illinois *spooneri* and 41 per cent for western *flavescens*, although they average closer to the mean of *spooneri*. Our sample is apparently referable to *K. f. spooneri*. The measurements of eight of the Iowa specimens are summarized in Table 1.

Table 1. Measurements of Iowa specimens of *Kinosternon flavescens spooneri*.

Locality	Sex	Carapace Length mm.	Gular Length mm.	Interhumeral Seam Length mm.	Gular Length/ Anterior Lobe of Plastron per cent
Conesville	♂	117.5	17.4	22.0	46.6
Conesville	♀	101.0	16.1	19.0	44.7
Conesville	♀	101.3	16.0	21.5	45.9
Conesville	♀	61.5	11.3	12.8	47.1
Conesville	♀	109.8	19.2	17.1	49.4
Conesville	?	46.0	7.9	8.0	49.4
5½ mi. SE					
Muscatine	♂	108.8	18.0	17.4	48.4
Muscatine	♂	100.0	15.4	20.4	43.4

The mud turtles collected in Iowa were found in two different environments. Six of the live specimens were taken from swamps characterized by clear water with an abundance of aquatic vegetation. This is opposed to the supposition made by Smith that these turtles are to be found on relict extensions of western prairie characterized by dry sandy areas. However, the four specimens collected near Muscatine were found in a lake with banks consisting of shifting sand dunes, which corresponds to Smith's supposition exactly. Further collecting may prove that the turtles are not rigorously attached to any one specific environment, but they nevertheless appear to be present as relict colonies in eastern Iowa.

Since the mud turtle has proved itself well established within the boundaries of Iowa, however, it is possible that further collecting will

reveal a larger range within the state than the relatively small area they are now known to inhabit.

Literature Cited

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